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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,637	11/21/2003	Gi Hyeong Do	9988.074.00-US	9123
30827 7590 06/21/2007 MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON, DC 20006			EXAMINER PATEL, RITA RAMESH	
			ART UNIT 1746	PAPER NUMBER
			MAIL DATE 06/21/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/717,637

Applicant(s)

DO ET AL.

Examiner

Rita R. Patel

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 8-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 12-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restriction***

Applicant's election with traverse of claims 1-7 of Group I in the reply filed on 8/10/06 is acknowledged. The traversal is on the ground(s) that Group I and II are patentably indistinguishable, and the search required for Group I overlaps the search for Group II thus not imposing a serious burden on the Examiner. This is not found persuasive because these inventions are independent or distinct for the reason that method claims 8-11 of Group II do not require a microcomputer, unlike that of apparatus claims 1-7 of Group I. There would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

Additionally as per Applicant's request that the Examiner provide an example of another materially different apparatus in which the process of claim 8 can be practiced, a materially different apparatus in which the process of claim 8 can be practiced is by use of an LED and dashboard button/switch, for example, for achieving a "controlling a wash pattern according to the sensed laundry amount". Similarly, claims 8-11 are distinct from claims 12-14 for the same reasons.

The requirement is still deemed proper and is therefore made FINAL. Claims 8-11 are withdrawn from examination.

***Claim Objections***

Claim 14 objected to because of the following informality: it appears the term "revoluution" is a misspelling of "revolution".

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Cho et al. (US Pub. No. 2002/0050011) herein referred to as "Cho".

Cho teaches an apparatus for sensing a laundry amount in a washing machine which is capable of improving the degree of sensing of the laundry amount to heighten an efficiency of a washing machine by controlling a current and detecting a speed to reduce an error of sensing the amount of the laundry (page 1, paragraph [0002]). As shown in Figure 4 of Cho, there is a motor 109, a microcomputer 108, and a speed detector 111 for receiving the position detect signal from the rotor position detector 110 and detecting therefrom a driving speed of the motor 109. Speed detector 111 in combination with rotor position detector 110 reads on Applicant's claim for a pulse sensor. Moreover, laundry amount sensor compares the speed received from the speed detector 111 with a previously stored reference speed (page 3, paragraph [0051]). It is well settled that the intended use of a claimed apparatus is not germane to

Art Unit: 1746

the issue of the patentability of the claimed structure. If the prior art structure is capable of performing the claimed use then it meets the claim. *In re Casey*, 152 USPQ 235, 238 (CCPA 1967); *In re Otto*, 136 USPA 459 (CPA 1963). Since the structural features of Cho are substantially identical to the limitations claimed, it is the Examiner's position that they are fully capable of performing the claimed function.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-7 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cho.

Cho teaches the claimed invention except fails to explicitly claim a timer. However, Cho does state this present invention is used in combination with a washing machine for sensing laundry therein; in claim 1 of Cho, it is recited "an apparatus for sensing a laundry amount in a washing machine". Also Cho teaches that the time taken to accelerate the motor to a certain speed is measured to sense the amount of laundry (page 1, paragraph [0016]); one of ordinary skill in the art at the time of the invention would have at reasonably expected that a timer is used to measure time in Cho. Measuring time is an integral function in Cho's invention and timers are commonly known apparatuses in the art used to measure time.

Re claims 4-5 and 14, Cho fails to explicitly claim a predetermined position of rotation whereby the timer measures, however it would have been obvious to one of ordinary skill in the art at the time of the invention to optimize this feature of Cho to achieve the most efficient washing functions, and thus utilizing energy effectively. Also, by optimization of the position the timer measures, it improves determining the amount of laundry therein such that wash patterns can be performed accordingly. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

***Response to Applicant's Arguments / Amendments***

This Office Action is responsive to the Response filed by Applicant's on 5/4/07. Claims 1-14 are pending. Claims 8-11 have been withdrawn from further consideration as being drawn to a non-elected invention. Claims 12-14 are new. Thus, claims 1-7 and 12-14 are rejected for the reasons supra.

In response to Applicant's remarks in the action filed 5/4/07, the Examiner maintains its restriction requirement for the reasons provided herein under the "Election/Restriction" supra.

Furthermore, Applicant argues that there is nothing in the Cho reference that suggest integration is employed; however, Applicant notes that in Cho speed is measured by counting the number of drum rotations over a fixed interval (see Cho Paragraph [0014]), and this reads on an "integration value" because it measures the

Art Unit: 1746

limit of a sum, or in other words the number of drum rotations over a fixed interval, which is by definition an "integration value".

Applicant further contests that in Cho it is not apparent how speed is measured. However, it is known in the art to measure drum rotation by the pulse speed, pulse speeds are sensed to measure rotations, in this case the pulse speed of a washing machine measures the tub rotations. In Figure 2C of Cho it is illustrated that the laundry amount (small, medium, large) can be ascertained by the sum of the velocity of the motor over a defined period of time. Additionally, Cho teaches a current controller 103 which is used to measure current. Current is comprised of pulses. Thus, Cho does teach deriving an integration value, namely a total velocity, from a voltage signal output from a pulse sensor, namely the current controller 103.


In response to Applicant's assertion that "it is unreasonable to interpret the lookup table approach in Cho with an integration process", the lookup table does not equal an integration process. Sensing current with respect to time and comparing it with a given value in Cho is equivalent to an integration process. Moreover, Applicant similarly teaches a microcomputer for storing reference values, in its Specification within Paragraph [0011]. Since the apparatus is claimed and the structural features of Cho are substantially identical to these claimed, it is the Examiner's position that they are fully capable of performing the claimed function.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rita R. Patel whose telephone number is (571) 272-8701. The examiner can normally be reached on M-F: 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
rrp

MICHAEL KORNAKOV  
PRIMARY EXAMINER

M. Kornakov  
06/18/07